

## CLAIMS:

1. Interference canceller comprising an adaptive filter for modeling an interference, and a spectral processor for processing the modeled interference together with near end speech and the actual interference, characterized in that the interference canceller further comprises an interference model mismatch compensator coupled to the adaptive filter  
5 for providing a mismatch signal for the spectral processor, said mismatch signal showing a speech independent decay.
2. Interference canceller according to claim 2, characterized in that the interference canceller comprises a step size estimator coupled to the interference model  
10 mismatch compensator.
3. Interference canceller according to claim 1 or 2, characterized in that the interference model mismatch compensator is arranged for calculating an interference model mismatch estimate based on a minimum of the ratio of a spectral measure of the near end  
15 speech and actual interference, and the modeled interference of the adaptive filter.
4. Interference canceller according to claim 3, characterized in that the minimum of said ratio is determined over a time span.
- 20 5. Interference canceller according to claim 4, characterized in that the time span contains at least one pause in the speech.
6. Interference canceller according to claim 4 or 5, characterized in that the time span lasts at least 4 to 5 seconds.
- 25 7. Interference canceller according to one of the claims 3-6, characterized in that the spectral measure is defined by some positive function of the spectral power concerned, such as the spectral magnitude, the squared spectral magnitude, the power spectral density or the Mel-scale spectral density.

8. Interference canceller according to one of the claims 1-7, characterized in that the interference canceller is embodied as an echo canceller and/or a noise canceller.

5 9. System, in particular a communication system, for example a hands-free communication device, such as a mobile telephone, a speech recognition system or a voice controlled system, which system is provided with an interference canceller according to one of the claims 1-8, the interference canceller comprising an adaptive filter for modeling an actual interference, and a spectral processor for processing the modeled interference together  
10 with near end speech and the actual interference, characterized in that the interference canceller further comprises an interference model mismatch compensator coupled to the adaptive filter for providing a mismatch signal for the spectral processor, said mismatch signal showing a speech independent decay.

15 10. Method for cancelling an interference, whereby an actual interference is modeled and the modeled interference, together with near end speech and the actual interference are processed, characterized in that an interference model mismatch signal is used for modeling the actual interference, which mismatch signal shows a speech independent decay.

20 11. Signals suited for use in the interference canceller according to one of the claims 1-8, the interference canceller comprising an adaptive filter for modeling an actual interference, and a spectral processor for processing the modeled interference together with near end speech and the actual interference, characterized in that the interference canceller  
25 further comprises an interference model mismatch compensator coupled to the adaptive filter for providing a mismatch signal to the spectral processor, said mismatch signal showing a speech independent decay.